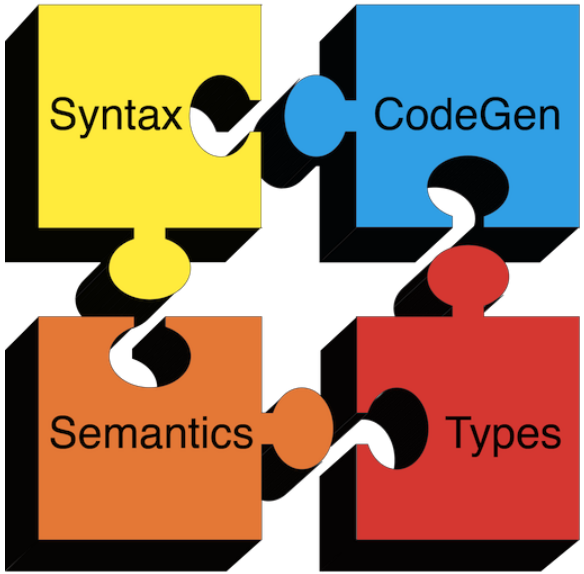

Compilers

Alignment

Alignment

- Most modern machines are 32 or 64 bit
  - 8 bits in a byte
  - 4 or 8 bytes in a word
  - Machines are either byte or word addressable

Alignment

- Data is *word aligned* if it begins at a word boundary

- Most machines have some alignment restrictions
  - Or performance penalties for poor alignment

Alignment

- Example: A string

  “Hello”

  Takes 5 characters (without a terminating \0)

- To word align next word, add 3 “padding” characters to the string

- The padding is not part of the string, it’s just unused memory